

## **REMARKS**

This is intended as a full and complete response to the Office Action dated October 1, 2009, having a shortened statutory period for response extended one month to expire on February 1, 2010. Please reconsider the claims pending in the application for reasons discussed below.

### **Claim Rejections under 35 USC § 112**

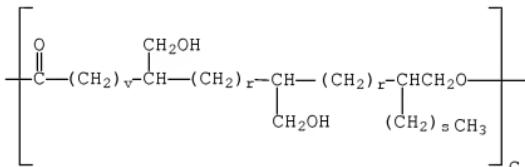
Claims 46, 49-49, and 52, stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. In particular, claims 46, 47, and 51 depend from themselves. In response, the Applicant has amended the claims in line with the Examiner's interpretation of the correct claim dependencies. The Applicant respectfully requests the removal of the rejection.

### **Claim Rejections under 35 USC § 103**

Claims 12-17, 19, 21, 23, 42, 50, and 51 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Peerman et al.* (EP Pub. 0 106 491 A2, hereinafter *Peerman*). The Applicant respectfully traverses the rejection.

Claim 12 recites subject matter not disclosed, suggested, or otherwise rendered obvious by *Peerman*. When determining whether a claim is obvious, an examiner must make "a searching comparison of the claimed invention – *including all its limitations* – with the teaching of the prior art." *In re Ochiai*, 71 F.3d 1565, 1572 (Fed. Cir. 1995) (emphasis added). Thus, "obviousness requires a suggestion of all limitations in a claim." *CFMT, Inc. v. Yieldup Intern. Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003) (*citing In re Royka*, 490 F.2d 981, 985 (CCPA 1974)). Moreover, as the Supreme Court recently stated, "*there must be some articulated reasoning* with some rational underpinning to support the legal conclusion of obviousness." *KSR Int'l v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (emphasis added)).

In the present case, *Peerman* does not teach, show, suggest, or otherwise render obvious a vegetable oil based polyol where the initiator is a polyol, polyamine or aminoalcohol initiator, wherein at least one of the amine or alcohol groups of the initiator has been reacted with an alkoxylating agent so that initiator has a number average molecular weight of at least about 625 and where at least 0.05 weight percent of the vegetable oil based polyol comprises a structure A3:



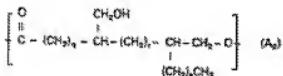
A3:

The Examiner acknowledges that *Peerman* does not teach that the initiator R is alkoxylated to the extent that R obtains a molecular weight of 625, but asserts that *peerman* teaches using polyol residues R that is alkoxylated (*Peerman* pg. 14, lines 14-30), and that it is common practice in the art to optimize result effective variables such as degree of alkoxylation desired in a polyol for forming polyurethanes having optimized elastic properties.

The Applicant respectfully disagrees. *Peerman* does suggest or motivate alkoxylation of an initiator molecule R to an extent so as to achieve a molecular weight of at least about 625 as recited in claim 12. *Peerman* does disclose capping an initiator compound through alkoxylation though reacting at least one mole of alkylene oxide per mole of hydroxyl on the polyol, according to the reaction given on page 14 of *Peerman*. In this reaction, the polyol has an OH functionality of p, and this polyol is reacted with p or 2p moles of alkylene oxide. The Examiner further asserts that *Peerman* motivates the additional alkxylation because *Peerman* on page 23, lines 29-34, discloses that varying chain size affects the elastic properties of the resulting polyurethane elastomer. However, *Peerman* refers here to additional polyols which may be included to the reaction mixture when forming polyurethane elastomers. These additional polyols are conventional (not based on fatty acid or fatty acid esters) It is these additional polyol which is used to control the elastic properties of the

elastomers. There is no evidence provided by the Examiner that increased alkoxylation of the initiators of *Peerman* would result in the elastic properties the Examiner refers to.

The Examiner acknowledges that *Peerman* does not teach that the polyol further comprises a structure corresponding to A3 in the instant claims, but asserts that A3 is a homolog (compounds which differ regularly by the successive addition of the same chemical groups, and are generally of sufficiently close structure that there is a presumed expectation that such compounds possess similar properties) of *Peerman's* A<sub>2</sub>:



The Examiner asserts that A3 differs from A<sub>2</sub> only in that an additional -CHCH<sub>2</sub>OH-(CH<sub>2</sub>)<sub>r</sub> is added onto the existing -CHCH<sub>2</sub>OH-(CH<sub>2</sub>)<sub>r</sub> group in the structure.

The Applicant respectfully disagrees. The Examiner does not explain how a person of ordinary skill in the art would be able to obtain, based on *Peerman*, a polyol having Applicant's A3 structure in it. As stated before, and admitted by the Examiner, the hydroformylation and reduction processes of *Peerman* does not produce structures akin to Applicant's Structure A3. In fact, *Peerman* discloses that in the process used by *Peerman*, a tri-unsaturated starting material, such as 9,12,15-linolenic acid ester, will partially reduce to produce a diformyl mixture (such as the 9(10), 12(13), and 15(16 isomers). (Page 9, lines 10-15.) Therefore, *Peerman* excludes the presence of A3. The Applicant respectfully refers the Examiner to section 2144.09.IV of the MPEP:

[I]f the prior art of record fails to disclose or render obvious a method for making a claimed compound, at the time the invention was made, it may not be legally concluded that the compound itself is in the possession of the public. In this context, we say that the absence of a known or obvious process for making the claimed compounds overcomes a presumption that the compounds are obvious, based on the close relationships between their structures and those of prior art compounds." *In re Hoeksema*, 399 F.2d 269, 274-75, 158 USPQ 597, 601 (CCPA 1968).

The Examiner has provided no suggestion as how a structure like A3 may be obtained from *Peerman*, therefore: the prior art (*Peerman*) fails to disclose or render obvious a method for making a claimed compound (polyol which includes A3).

The Examiner further asserts that the presence of an additional -CH<sub>2</sub>OH-(CH<sub>2</sub>)<sub>r</sub> group in the structure would provide advantages such as increasing the polyols reactivity with isocyanate. The Applicant respectfully traverses this assumption, and requests the Examiner to provide support for the assumption, as the Applicant is unaware that merely increasing the number of hydroxyl groups in a polyol results in an overall increase of the polyol's reactivity with an isocyanate.

Because *Peerman* does not disclose an initiator and the presence of A3 as recited in Applicants claim 12, and because there is no articulated reasoning with some rational underpinning to support the legal conclusion of obviousness of such an initiator or structure A3, *Peerman* fails to teach, show, suggest, or otherwise render obvious claim 12 and claims dependent therefrom. Withdrawal of the rejection is respectfully requested.

Claims 16-18 stand rejected under 35 U.S.C. § 103(c) as being patentable over *Peerman* as applied to claim 12, and further in view of *Rogier* (U.S. Patent no. 4,216,344). The Applicant respectfully traverses the rejection.

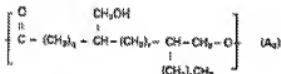
*Peerman* in view of *Rogier* fails do cure the deficiencies of *Peerman* to anticipate or render obvious claim 12 as discussed above. Because *Peerman* and *Rogier* fail to disclose or render obvious each and every element of claim 12, and therefore also claims 16-18 dependent therefrom, the Applicant respectfully requests the withdrawal of the rejection.

Claim 45 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Peerman*. The Applicant respectfully traverses the rejection.

In the present case, *Peerman* does not teach, show, suggest, or otherwise render obvious a vegetable oil based polyol where the initiator is a polyol, polyamine or aminoalcohol initiator, wherein at least one of the amine or alcohol groups of the initiator has been reacted with an alkoxylating agent so that initiator has a number

average molecular weight of at least about 625 and where at least 0.05 weight percent of the vegetable oil based polyol comprises the structures A1, A2, and A3 so long as A1 has a weight ratio of between about 10 and about 95 weight percent of the total weight of A+A2+A3, A2 has a weight ratio of between about 1 and about 65 weight percent of the total weight of A+A2+A3, A3 has a weight ratio of between about 0.1 and about 10 weight percent of the total weight of A+A2+A3, and the weight ratio of A2 to A3 is greater than 5/1.

The Examiner acknowledges that *Peerman* does not teach that the polyol further comprises a structure corresponding to A3 in the instant claims, but asserts that A3 is a homolog of *Peerman's* A<sub>2</sub>:



The Examiner asserts that A3 differs from A<sub>2</sub> only in that an additional -CHCH<sub>2</sub>OH-(CH<sub>2</sub>)<sub>7</sub> is added onto the existing -CHCH<sub>2</sub>OH-(CH<sub>2</sub>)<sub>7</sub> group in the structure.

The Applicant respectfully disagrees. The Examiner does not explain how a person of ordinary skill in the art would be able to obtain, based on *Peerman*, a polyol having Applicant's A3 structure in it. As stated before, and admitted by the Examiner, the hydroformylation and reduction processes of *Peerman* does not produce structures akin to Applicant's Structure A3. In fact, *Peerman* discloses that in the process used by *Peerman*, a tri-unsaturated starting material, such as 9,12,15-linolenic acid ester, will partially reduce to produce a diformyl mixture (such as the 9(10), 12(13), and 15(16) isomers). (Page 9, lines 10-15.) Therefore, *Peerman* excludes the presence of A3. The Applicant respectfully refers the Examiner to section 2144.09.IV of the MPEP:

[I]f the prior art of record fails to disclose or render obvious a method for making a claimed compound, at the time the invention was made, it may not be legally concluded that the compound itself is in the possession of the public. In this context, we say that the absence of a known or obvious process for making the claimed compounds overcomes a presumption that the compounds are obvious, based on the close relationships between their structures and those of

prior art compounds." *In re Hoeksema*, 399 F.2d 269, 274-75, 158 USPQ 597, 601 (CCPA 1968).

The Examiner has provided no suggestion as how a structure like A3 may be obtained from *Peerman*, therefore: the prior art (*Peerman*) fails to disclose or render obvious a method for making a claimed compound (polyol which includes A3).

The Examiner further acknowledges that *Peerman* does not disclose the specific weight ratio of A<sub>1</sub>, A<sub>2</sub>, and A<sub>3</sub> relative to each other, but asserts that it is a common practice in the art to optimize result effective variables such as weight ratio of A<sub>1</sub>, A<sub>2</sub>, and A<sub>3</sub> relative to each other. The Applicant respectfully disagrees. A person of ordinary skill in the art would not be able, based on *Peerman*, to provide a polyol having the A<sub>1</sub>, A<sub>2</sub>, and A<sub>3</sub> ratios recited in the instant claims. As noted above, *Peerman* does not only not disclose the presence of A<sub>3</sub>, *Peerman* essentially exclude the presence of A<sub>3</sub>.

Because *Peerman* does not disclose a vegetable oil based polyol where the initiator is a polyol, polyamine or aminoalcohol initiator, wherein at least one of the amine or alcohol groups of the initiator has been reacted with an alkoxylating agent so that initiator has a number average molecular weight of at least about 625 and where at least 0.05 weight percent of the vegetable oil based polyol comprises the structures A<sub>1</sub>, A<sub>2</sub>, and A<sub>3</sub> so long as A<sub>1</sub> has a weight ratio of between about 10 and about 95 weight percent of the total weight of A+A<sub>2</sub>+A<sub>3</sub>, A<sub>2</sub> has a weight ratio of between about 1 and about 65 weight percent of the total weight of A+A<sub>2</sub>+A<sub>3</sub>, A<sub>3</sub> has a weight ratio of between about 0.1 and about 10 weight percent of the total weight of A+A<sub>2</sub>+A<sub>3</sub>, and the weight ratio of A<sub>2</sub> to A<sub>3</sub> is greater than 5/1, *Peerman* fails to teach, show, suggest, or otherwise render obvious claim 45 and claims dependent therefrom.

Withdrawal of the rejection is respectfully requested.

In further support of claim 45, the Applicant respectfully refers the Examiner to recently issued patent no. 7,615,658 (Application no. 10/551,854) in where the Applicant obtained claims for the alcohol composition of the hydroxymethyl-substituted fatty acids or fatty acid esters on which the polyol of instant claim 45 is based:

Claim 1: An alcohol composition comprising a mixture of hydroxymethyl-substituted fatty acids or fatty acid esters comprising in terms of hydroxy distribution from greater than about 10 to less than about 95 percent mono

alcohol, from greater than about 1 to less than about 65 percent diol, and from greater than about 0.1 to less than about 10 percent triol by weight, based on the total weight of the composition, and further having a diol to triol weight ratio of greater than 5/1.

Claims 46-49 and 52 stand rejected under 35 U.S.C. § 103(c) as being unpatentable over *Peerman* as applied to claim 12, and further in view of *Rogier* (U.S. Patent no. 4,216,344). The Applicant respectfully traverses the rejection.

*Peerman* in view of *Rogier* fails to cure the deficiencies of *Peerman* to anticipate or render obvious claim 45 as discussed above. Because *Peerman* and *Rogier* fail to disclose or render obvious each and every element of claim 45, and therefore also claims 46-49 and 52 dependent therefrom, the Applicant respectfully requests the withdrawal of the rejection.

#### **Double Patenting**

The applicant was advised by the Examiner that should claims 21 and 23 be found allowable, claims 50 and 51 will be objected to under 37 CFR 1.75 as being substantial duplicate thereof. In response, the Applicant has amended claim 50 to depend on claim 45 (and not 12). Withdrawal of the double patenting rejection respectfully requested.

Claims 12 and 45 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims of copending Application No. 11/665,097 in view of *Peerman*.

Claims 12 and 45 of Applicants present application are patentably distinct from the claims of Applicants '097 application. Claims 12 and 45 of the present application recites a vegetable oil based polyol while the claims of '097 recite a dispersion of polymer particles. The polymer particles of '097 are a polyurethane made by reacting, *inter alia*, a polyisocyanate and a hydroxymethyl-containing polyester polyol derived from a fatty acid. Because claims 12 and 45 of the present application recites a polyol

and the claims of '097 recite a dispersion of polymer particles the two claims are patentably distinct. Withdrawal of the rejection is respectfully requested.

Having addressed all issues set out in the Office Action, the Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Dated: February 1, 2010

Respectfully submitted,

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